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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,769	07/24/2001	Victor Korol	P-4043-US	3573

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EXAMINER	
PATHAK, SUDHANSHU C	

ART UNIT	PAPER NUMBER
2634	

DATE MAILED: 12/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/910,769	KOROL ET AL.	
	Examiner	Art Unit	
	Sudhanshu C. Pathak	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *July 24th, 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *October 22nd, 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-to-25 are pending in the application.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words.
The language should be clear and concise and should not repeat information given in the title.

3. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

4. Applicant is reminded of the proper content of the specification.

Content of Specification

(a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification.

(b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.

(c) **Background of the Invention:** See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:

(1) **Field of the Invention:** A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

(2) **Description of the Related Art** including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

(d) **Brief Summary of the Invention**: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

(e) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

(f) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

(g) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)).

(h) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-11, 14 & 17-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Park et al. (GB-2336976-A).

Regarding to Claims 1, 6-7, 14, 17-18 & 22, Park discloses an apparatus comprising: an estimator adapted to predict occurrences of a predetermined amplitude level in an in-phase and quadrature phase (I/Q) complex trajectory plane (Fig. 2, element 241 & Fig. 's 3-5 & Fig. 7, element 713 & Page 3, lines 23-24 & Page 9, lines 3-6 & Page 11, lines 24-28 & Page 12, lines 8-28 & Page 13, lines 1-28 & Page 14, lines 5-28 & Page 15, lines 1-28); and a deflector which is adapted to deflect the I/Q complex trajectory from an origin of the I/Q complex trajectory plane according to an estimator prediction (Fig. 2, elements 243, 245, 247, 249 & Fig. 6 & Page 3, lines 25-29 & Page 4, lines 17-23 & Page 5, lines 2-16 & Page 7, lines 10-15 & Page 9, lines 6-28 & Page 17, lines 23-28 & Page 18, lines 1-16). Park also discloses the apparatus to be a portable communication device (Abstract, lines 1-9 & Page 1, lines 5-13 & Fig.'s 1-2).

Regarding to Claim 2, 8, 19 & 23, Park discloses an apparatus comprising an estimator to detect occurrences of a predetermined amplitude in an in-phase and quadrature phase complex trajectory; and a deflector adapted to deflect the I/Q

complex trajectory from an origin of the I/Q complex plane according to the estimator as described above. Park also discloses the deflector is adapted to receive samples of an I/Q data stream and deflect the I/Q complex trajectory of the I/Q data stream according to I/Q complex trajectory corrective parameters (Fig. 2, elements 243, 245, 247, 249 & Fig. 6 & Page 3, lines 25-29 & Page 4, lines 17-23 & Page 5, lines 2-16 & Page 9, lines 6-28 & Page 17, lines 23-28 & Page 18, lines 1-16).

Regarding to Claim 3, 9, 20 & 24, Park discloses an apparatus comprising an estimator to detect occurrences of a predetermined amplitude in an in-phase and quadrature phase complex trajectory; and a deflector adapted to deflect the I/Q complex trajectory from an origin of the I/Q complex plane according to the estimator wherein the deflector is adapted to receive samples of an I/Q data stream and deflect the I/Q complex trajectory of the I/Q data stream according to I/Q complex trajectory corrective parameters as described above. Park also discloses that the estimator is adapted to receive at least two consecutive symbols of the I/Q data stream and to determine whether or not to provide the I/Q complex trajectory corrective parameters according to at least two consecutive symbols (Fig.'s 3-5 & Page 12, lines 22-28 & Page 13, lines 1-28 & Page 14, lines 5-28 & Page 15, lines 7-28).

Regarding to Claims 4-5, 10-11, 21 & 25, Park discloses an apparatus comprising an estimator to detect occurrences of a predetermined amplitude in an in-phase and quadrature phase complex trajectory; and a deflector adapted to deflect the I/Q complex trajectory from an origin of the I/Q complex plane according

to the estimator wherein the deflector is adapted to receive samples of an I/Q data stream and deflect the I/Q complex trajectory of the I/Q data stream according to I/Q complex trajectory corrective parameters and wherein the estimator is adapted to receive at least two consecutive symbols of the I/Q data stream and to determine whether or not to provide the I/Q complex trajectory corrective parameters according to at least two consecutive symbols as described above. Park also discloses that the estimator is further adapted to provide the trajectory corrective parameters according to an estimated distance between the origin of the complex trajectory plane to the I/Q complex trajectory and an adjustable deflection window adapted to a weighting window (Fig.'s 3-5 & Page 5, lines 18-24 & Page 11, lines 8-22 & Page 17, lines 3-28 & Page 18, lines 8-16 & Page 20, lines 17-28).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 12 & 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. (GB-2336976-A) in view of Park et al. (6,246,715).

Regarding to Claims 12 & 13, Park discloses an apparatus (portable communication device) comprising an estimator to detect occurrences of a predetermined amplitude in an in-phase and quadrature phase complex trajectory; and a deflector adapted to deflect the I/Q complex trajectory from an origin of the I/Q

complex plane according to the estimator wherein the deflector is adapted to receive samples of an I/Q data stream and deflect the I/Q complex trajectory of the I/Q data stream according to I/Q complex trajectory corrective parameters and wherein the estimator is adapted to receive at least two consecutive symbols of the I/Q data stream and to determine whether or not to provide the I/Q complex trajectory corrective parameters according to at least two consecutive symbols according to an adjustable deflection window as described above. However, Park does not specify the portable communication device to further comprise a data source for providing the I/Q data stream, a radio frequency amplifier and an antenna.

Park discloses a portable device in a spread spectrum communication system (Abstract, lines 1-5 & Column 1, lines 5-67 & Column 2, lines 1-20). Park further discloses a data source to provide the I/Q data stream and an antenna (Fig. 1, elements "User Channel Data (UD1...UDN)", 136 & Column 4, lines 15-35). Park also discloses the portable communication device to comprise an RF amplifier with a reactive termination (Fig. 1, element 135 & Column 4, lines 50-61 & Column 5, lines 11-23 & Column 6, lines 55-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Park discloses a portable communication device comprising a data source for communicating data, an RF amplifier and an antenna and this can be implemented in the apparatus (device) as described in Park so as to implement the device in a wireless communication system, thus satisfying the limitations of the claim.

9. Claims 15 & 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. (GB-2336976-A) in view of Park et al. (6,246,715) in further view of Walker (6,154,158).

Regarding to Claims 15 & 16, Park discloses an apparatus (portable communication device) comprising an estimator to detect occurrences of a predetermined amplitude in an in-phase and quadrature phase complex trajectory; and a deflector adapted to deflect the I/Q complex trajectory from an origin of the I/Q complex plane according to the estimator wherein the deflector is adapted to receive samples of an I/Q data stream and deflect the I/Q complex trajectory of the I/Q data stream according to I/Q complex trajectory corrective parameters and wherein the estimator is adapted to receive at least two consecutive symbols of the I/Q data stream and to determine whether or not to provide the I/Q complex trajectory corrective parameters according to at least two consecutive symbols according to an adjustable deflection window as described above. However, Park does not specify a channelization and spreading block.

Park discloses a portable device in a spread spectrum communication system (Abstract, lines 1-5 & Column 1, lines 5-67 & Column 2, lines 1-20). Park further discloses a data source to provide the I/Q data stream and an antenna (Fig. 1, elements "User Channel Data (UD1...UDN)", 136 & Column 4, lines 15-35). Park also discloses a channelization and spreading block (Fig. 1, elements 101-118). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Park teaches a channelization and spreading block, and this can

be implemented in the device (apparatus) as described in Park so as to provide a multichannel I/Q modulated data in a spread spectrum communication system. However, Park in view of Park does not disclose a pulse-shaping filter; a digital to analog converter which receive digital signals and outputs analog signals to a filter; and an upconverter which receives signals from the filter and adapted to upconvert the signals into a radio frequency signals.

Walker discloses an apparatus for communicating data in a spread spectrum communication system (Column 1, lines 23-67). Walker further discloses the apparatus comprising a digital-to-analog converter (ADC) coupled to a pulse shaping filters further coupled to an upconverter (Fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Walker teaches an ADC, pulse shaping filters and an upconverter and this can be implemented in the apparatus as described in Park in view of Park coupled to the zero crossing detector and deflector so as to convert the desired digital and non zero crossing data (constellation) to an analog signal and upconverted to a desired carrier frequency for transmission, thus satisfying the limitations of the claim.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, it is recommended to the applicant to amend all the claims so as to be patentable over the cited prior art of record. A detailed list of pertinent references is included with this Office Action (See Attached "Notice of References Cited" (PTO-892)).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhanshu C. Pathak whose telephone number is (571)-272-3038. The examiner can normally be reached on M-F: 9am-6pm.

- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571)-272-3056
- The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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